

WHAT IS CLAIMED IS:

1. A leak check device comprising:

an evaporated fuel purge system including a fuel tank,  
an adsorption filter which connects to the fuel tank through  
a connecting pipe and has a venting flow path, and a vent valve  
5 connected to an intake system of an engine through a valve flow  
path;

a pump which pressurizes or depressurizes the venting  
flow path to inspect state of leakage in the evaporated fuel  
10 purge system;

a motor unit which drives the pump for applying or  
reducing pressure;

an in-vehicle battery for the motor unit; and

a voltage control circuit which controls a battery  
15 voltage supplied from the in-vehicle battery to the motor unit  
to a predetermined voltage.

2. The leak check device for evaporated fuel purging system  
according to Claim 1, further comprising:

20 a reference channel placed in parallel with the venting  
flow path; and

a switchover valve for switching flow paths which is  
capable of connecting the reference channel to the pump in place  
of the venting flow path,

25 wherein pressure increased or reduced by the pump is  
alternately applied to the reference channel and the venting  
flow path through the switchover valve.

3. The leak check device for evaporated fuel purging system according to Claim 2,

wherein the leakage is determined by measuring at least one of pressure characteristics, the power consumption, rotational speed and electric current of the motor unit when pressure is applied to the reference channel and to the venting flow path and comparing measurement results.

4. The leak check device for evaporated fuel purging system according to Claim 1,

wherein the voltage control circuit supplies the predetermined voltage of less than 84% of a nominal voltage of the battery.

5. The leak check device for evaporated fuel purging system according to Claim 1,

wherein the voltage control circuit supplies the predetermined voltage of less than 10V, when a nominal voltage of the battery is 12V.

6. The leak check device for evaporated fuel purging system according to Claim 1,

wherein the voltage control circuit supplies the predetermined voltage of less than 20V, when a nominal voltage of the battery is 24V.

7. The leak check device for evaporated fuel purging system according to Claim 1,

wherein the voltage control circuit is placed between the battery and an input stage of the motor unit or between the battery and a circuit dedicated to motor driving for the motor unit.

8. The leak check device for evaporated fuel purging system according to Claim 1,

wherein the voltage control circuit comprises a Zener diode and a semiconductor device.

9. The leak check device for evaporated fuel purging system according to Claim 2,

wherein the pump, the motor unit, and the switchover valve for switching flow paths are integrally assembled into a module.